

ABSTRACT

A method of homogenizing polypropylene using twin counter-rotating screws with a melting stage and a separate downstream mixing phase. The polypropylene is melted to at least 5°C above its melting point in the melting stage and passed through a gate valve into the mixing section. The elongational stress applied to the polymer in the mixing section is at least 20% greater than that of conventional counter-rotating extruders and causes a Hencky strain of between 1.5 and 2.5 in the polymer. This causes significant strain hardening within the polymer sufficient to break up gels within the polypropylene, thereby producing a polymer with no visible white spots.